



Response to Letter to the editors referring to Fikenzer, S., Uhe, T., Lavall, D., Rudolph, U., Falz, R., Busse, M., Hepp, P., & Laufs, U. (2020). Effects of surgical and FFP2/N95 face masks on cardiopulmonary exercise capacity. Clinical research in cardiology: official journal of the German Cardiac Society, 1–9. Advance online publication. <https://doi.org/10.1007/s00392-020-01704-y>

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Response to Petru et al.

Sirs:

$\text{VO}_{2\text{RCP}}$ and $\text{relVO}_{2\text{max}}$ at RCP were significantly reduced for ffpm. Please find the detailed values below. The method for the quantification of ten domains of comfort/discomfort of wearing a mask (humidity, heat, breathing resistance, itchiness, tightness, saltiness, feeling unfit, odor, fatigue, and overall discomfort) is described in the manuscript.

The clear results of our study show that ventilation, cardiopulmonary exercise capacity, and comfort are reduced by surgical masks and highly impaired by FFP2/N95 face masks in healthy individuals. Future/ongoing studies need to address the effects during long-term sub-maximal physical activity and in patients with pulmonary and/or cardiac diseases.

We strongly believe that medical recommendations need to be based on evidence with regard to risk and benefit. As an example, the knowledge about adverse effects associated with many life-saving medications (e.g.,

immunosuppressant drugs) is a prerequisite for adequate treatment recommendations and long-term success.

$\text{VO}_{2\text{RCP}}$

nm: 2468 ± 514 ml/min
sm: 2401 ± 662 ml/min
ffpm: 2242 ± 535 ml/min
one-way ANOVA $p = 0.044$
nm vs. sm $p = 0.707$
nm vs. ffpm $p = 0.017$
 $\text{relVO}_{2\text{max}}$ at RCP
nm: $75.5 \pm 5.5\%$
sm: $72.8 \pm 7.8\%$
ffpm: $68.5 \pm 7.2\%$
one-way ANOVA $p = 0.034$
nm vs. sm $p = 0.486$
nm vs. ffpm $p = 0.017$
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